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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,472	02/17/2004	Adrianus Johannes Mattheus Berntsen	NL000070A	1403

24737 7590 04/12/2006

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/780,472	Applicant(s) MATTHEUS BERNTSEN ET AL.	
	Examiner Marie R. Yamnitzky	Art Unit 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. This Office action is in response to applicant's amendment filed February 08, 2006, which amends the specification and claims 15 and 17.

Claims 13-20 are pending.

2. The rejection of claims 17-20 under 35 U.S.C. 102(b) as anticipated by WO 99/21936 is overcome by applicant's amendment to claim 17, which deletes "0" as a possibility for "p".

3. The amendment filed February 08, 2006 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not fully supported by the original disclosure is as follows: the replacement of "OC₁₀" with --OC₉-- on pages 3, 10, 12 and 13.

The replacement of "OC₁₀" with --OC₉-- was done in response to an objection to the disclosure for informalities. The original specification named 3,7-dimethylhexyloxy as an OC₁₀ group (page 3, line 19, p. 10, l. 1, p. 12, l. 13 and p. 13, l. 3), but dimethylhexyloxy is not an OC₁₀ group. (In the action mailed May 09, 2005, the examiner incorrectly identified dimethylhexyloxy as an OC₉ group. Dimethylhexyloxy is an OC₈ group.) While the replacement of "OC₁₀" with --OC₉-- attempts to correct the inconsistency between name and formula by changing the formula, and the examiner presumes for the sake of argument that applicant would have replaced OC₁₀ with OC₈ had the examiner previously identified dimethylhexyloxy as an OC₈ group, a review of the record as a whole reflects that a change in

Art Unit: 1774

the formula introduces new matter, at least with respect to the change on page 10. Page 10, line 1 is part of the description of polymer C4, which is disclosed in WO 99/21936. A review of WO 99/21936 shows that at p. 10, l. 1 of the original specification, "OC₁₀" was correct while "3,7-dimethylhexyloxy" was in error. Since the replacement of the formula at p. 10, l. 1 is not supported, it is questionable whether the replacement at pages 3, 12 and 13 is supported/correct.

In the case of the change to page 10, the change is also inconsistent with formula (C4), which contains two occurrences of OC₁₀. In the case of the change to page 12, the change is also inconsistent with formula (C7), which contains two occurrences of OC₁₀. In the case of the change to page 13, the change is also inconsistent with formula (C2), which contains one occurrence of OC₁₀. Formulae (C4), (C7) and (C2) do not contain OC₉ (or OC₈). If "dimethylhexyloxy" is correct, than formulae (C4), (C7) and (C2) are incorrect.

The changes are also inconsistent with changes made during prosecution of parent Application No. 09/790,201. In the parent application, applicant amended the corresponding portions of the specification by replacing "3,7-dimethylhexyloxy" with --3,7-dimethyloctyloxy--. (See amendment filed May 07, 2003 in the '201 application.)

Applicant is required to cancel the new matter in the reply to this Office Action.

4. Claims 13-16 stand rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement, for reasons of record in the Office action mailed May 09, 2005.

Art Unit: 1774

5. Claims 13-16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, for reasons of record in the Office action mailed May 09, 2005.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/24526. (See US 2002/0064680 A1 as representing a translation of the international application published as WO 99/24526.)

See the whole document. In particular, see the abstract, page 21 (monomers 3, 9 and 16), p. 22 (monomer C), p. 54, l. 7-p. 56, l. 3, p. 58, l. 1-20, p. 59, l. 12-p.61, l. 5, p. 62, l. 1-22, p. 63, l. 13-p. 64, l. 3, p. 64, l. 27-p. 65, l. 14, p. 67, l. 10-p. 68, l. 16, p. 76 and pp. 79-81.

Each of prior art polymers P6, P8, P9 and P12 are aryl-substituted poly-p-arylenes comprising a repeating unit of formula (C1) as defined in present claim 17 and further defined in claims 18-20.

These polymers are disclosed for use in an organic electroluminescent device.

The service life limitations set forth in claim 17 are expected by the examiner to be inherent in the prior art devices made with polymer P6, P8, P9 or P12 given the structural

Art Unit: 1774

similarity of the prior art polymers to the aryl-substituted poly-p-arylenevinylene required by present claims 17-20. In particular, prior art polymer P8 consists of the same repeating units as the polymer of formula (C8) on page 13 of the present specification. It is reasonable to expect that a device made with prior art polymer P8 will meet the limitations of claims 17-20 since a device made with a polymer of present formula (C8) meets the limitations.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 99/21936.

See the whole document. In particular, see page 1, line 18-p. 2, l. 10, p. 4, l. 12-21, p. 15, l. 9-p. 17, l. 20, p. 19, l. 1-13 and p. 19, l. 25-p. 20, l. 22.

Each of prior art polymers NRS-291, NRS-293, NRS-294 and NRS-296 are aryl-substituted poly-p-arylenevinylenes comprising a repeating unit similar to the repeating unit of formula (C1) as defined in present claims 13-20. These specific prior art polymers differ from the polymers of the present claims in that the prior art polymers have a repeating unit of formula (C1) wherein p is 0 whereas the present claims require p to be 1, 2 or 3.

The prior art polymers are disclosed for use in an organic electroluminescent device.

While the prior art does not disclose any specific examples of polymers comprising or consisting of units of present formula (C1) in which p is 1, 2 or 3, such polymers are suggested by and are within the scope of the prior art. A polymer comprising or consisting of units of formula (C1) as defined on page 4 of the prior art wherein R¹ is a C₁-C₂₀ alkoxy suggests a polymer comprising or consisting of units of formula (C1) as defined in present claims 13 and 17 wherein p is 1 and R is -XR¹ wherein -X- represents -O- and R¹ represents a C₁-C₂₀ alkyl group. (For purposes of this rejection, the examiner presumes that "alkylene" in the sixth line after formula (C1) in claim 13 should read --alkyl--.) A polymer comprising units of formula (C2) as defined on page 4 of the prior art suggests a polymer comprising units of formula (C1) as defined in present claim 17 wherein p is 1 and R is a C₄-C₁₂ aryl group which may or may not be substituted.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to make polymers within the scope of the prior art and suggested by the prior art other than those specifically disclosed with the expectation that other polymers suggested by the prior art would be usable for the prior art purposes. Given the prior art disclosure as a whole regarding service life values, storage and operating temperatures, and emission color, it would have been within the level of ordinary skill of a worker in the art at the time of the invention to provide a polymer comprising repeating units suitable for providing a desired color of light emission while optimizing device characteristics such as service life.

The prior art intends the polymers to be used in devices driven at temperatures in excess of 70 °C, and the prior art discloses service life values in excess of 1000 h. Although the

Art Unit: 1774

working examples in the prior art disclose initial brightness values lower than the values set forth in claim 17, the prior art values are obtained at relatively low voltages (3V). Claim 17 does not limit the voltage at which the initial brightness value is obtained. As is well-known in the art (and admitted by applicants on page 1 of the present specification), brightness can be increased by increasing voltage.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 13-20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,743,525. Although the conflicting claims are not identical, they are not patentably distinct from each other. There is

substantial overlap between the aryl-substituted poly-p-arylenevinylene as defined in the patented claims and the present claims, the differences being that the present claims are slightly broader than the patent claims in allowing the unit -X- to represent -O-, and slightly narrower than the patent claims in that the present claims do not explicitly allow R^1 and R^2 to together constitute a C_1 - C_{20} alkylene group. With respect to the organic electroluminescent devices of the patented and present claims, the organic electroluminescent device of patent claim 6 is required to have the same properties as recited in present claim 17.

12. Applicant's arguments filed February 08, 2006 have been fully considered but they are not persuasive.

In response to the rejection of claims 13-16 under 35 U.S.C. 112, first paragraph, applicant argues that the definition of R^1 and R^2 as separately being a C_1 - C_{20} alkylene group finds support in the specification recitation " R^1 and R^2 are the same or different" (page 2, line 8, of the specification). In response to the rejection under 35 U.S.C. 112, second paragraph, applicant argues that one of skill in the art would easily understand the definition of R^1 and R^2 as separately being the specified alkylene group. This argument is not persuasive because this recitation is taken out of context. When R^1 and R^2 are the same or different, they are selected from specified alkyl groups. Together, R^1 and R^2 can be the specified alkylene group. An "alkyl" group is a monovalent group. An "alkylene" group is a divalent group. R^1 alone and R^2 alone are monovalent groups. Therefore, R^1 and R^2 cannot separately be an alkylene group.

With respect to the rejection under 35 U.S.C. 102(b) based on WO 99/24526, the rejection has been modified to delete reference to specific prior art polymers that are no longer within the scope of claims 17-20. Regarding the structural similarities of the prior art polymers and the present polymers, applicant argues that prior art polymer P8 does not consist of the same repeating units as present polymer C8 because P8 contains a dimethyloctyloxy where C8 contains a dimethylhexyloxy. The formula for present polymer C8 as set forth on page 10 of the specification shows an OC₁₀ group at the same position that the prior art polymer has an OC₁₀ group. While the present application attempts to equate "OC₁₀" with "methylhexyloxy", a methylhexyloxy group is not an OC₁₀ group. Given the record as a whole, an OC₁₀ group is a dimethyloctyloxy group, as in the prior art polymers. Applicant also argues that while the prior art polymers may be structurally similar, the prior art does not dictate that the polymers will act as required by the present invention. While the prior art polymers are not required to provide the service life limitations required for the device of claims 17-20, the service life limitations are affected by the polymer, the four prior art polymers referenced in the rejection are within the scope of the polymer required for the device of claims 17-20, and one of the four prior art polymers referenced in the rejection consists of the same repeating units as a polymer demonstrated in the present specification to provide the claimed service life limitations. Applicant has provided no objective evidence to demonstrate that the prior art polymers do not inherently provide the service life limitations recited in claim 17.

With respect to the rejection under 35 U.S.C. 103(a) based on WO 99/21936, applicant argues that there is no suggestion in the prior art to make the polymers of the present claims in

Art Unit: 1774

which $p = 1, 2$ or 3 . Applicant's arguments disregard the prior art teachings on page 4 which clearly teach that there may be an alkoxy group or substituted or unsubstituted phenyl group as a substituent that meets the limitations of present substituent R for $p = 1$.

With respect to the obviousness-type double patent rejection, applicant points to differences in the scope of the present claims versus the patent claims (the differences noted by the examiner in making the rejection) and argues that the present and patent claims are not drawn to the same invention. The examiner agrees that the present and patent claims are not co-extensive in scope. If the two sets of claims were co-extensive in scope, the rejection would be a rejection under 35 U.S.C. 101 rather than an obviousness-type double patenting rejection. While the present claims cover some embodiments outside the scope of the patent claims, and the patent claims cover some embodiments outside the scope of the present claims, there are embodiments that are within the scope of the patent and the present claims. The common subject matter is the focus of the obviousness-type double patenting rejection.

13. Miscellaneous:

The extraneous markings to the lower left of formula (C1) in claim 17 should be deleted.

In the sixth and seventh lines after formula (C1) in claim 17, either "a" in the sixth line should be deleted or "groups" in the seventh line should be changed to --group--.

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 1774

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for all official faxes is (571) 273-8300. (Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
April 10, 2006



MARIE YAMNITZKY
PRIMARY EXAMINER

1774